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Determination of inorganic arsenic in food and feed – European initiatives in research and standardization of methods

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The European legislation on trace elements concerning food and feed safety is based on total element concentrations expressed as maximum levels. However, information on the total content of an element does not always provide adequate information for evaluation of e.g. bioavailability and toxicity. These parameters may vary quite significantly depending on how the element is bound, *i.e.* its speciation, defined as the distribution of an element amongst defined chemical species in a system. The most important practical application of elemental speciation is in the area of toxicology and with the help of more detailed toxicological knowledge on the individual chemical elemental species should lead to more specific legislation.

The present lecture will use arsenic as an illustrative example, where inorganic arsenic is considered much more toxic than organic bound and analytical methods for selective determination of inorganic arsenic are required in order to perform a correct risk assessment of dietary exposure.

The lecture will provide the current status for recent and ongoing European initiatives and projects on methods for specific determination of inorganic arsenic in foodstuffs and feedingstuffs and expected future developments within this emerging scientific area will be discussed.